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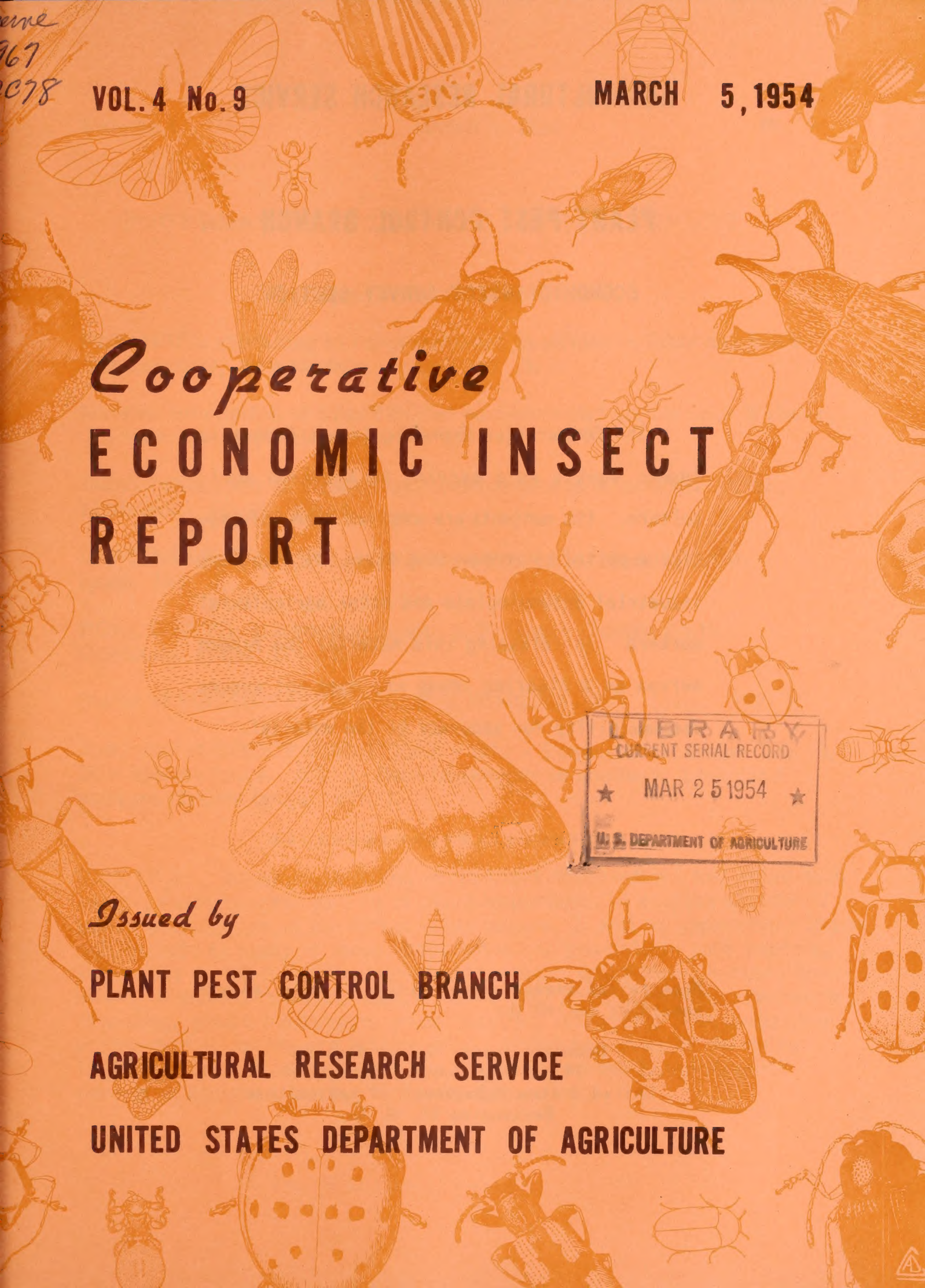

Cooperative
ECONOMIC INSECT REPORT

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U. S. DEPARTMENT OF AGRICULTURE

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PLANT PEST CONTROL BRANCH

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL BRANCH

ECONOMIC INSECT SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Branch serves as a clearing house and does not assume responsibility for accuracy of the material.

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Economic Insect Survey Section
Plant Pest Control Branch
United States Department of Agriculture
Washington 25, D. C.

Volume 4 March 5, 1954 No. 9

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

PEA APHID appearing in large numbers in alfalfa in Eddy and Dona Ana Counties, New Mexico. (page 175).

Medium infestation of ARMYWORM on clover and alfalfa near Weimar, Colorado County, Texas. (page 176).

Heavy infestation of THRIPS on strawberries in Ascension Parish, Louisiana. (page 178).

LEAF MINERS infesting melons in areas of Florida and Texas. (page 178).

BOLL WEEVIL hibernation counts in Florence County, South Carolina. (page 178).

Status of MATSUCOCCUS SCALE in Northeast-1953. (page 179).

Summary of INSECT CONDITIONS - 1953 - Pennsylvania (page 182), New Mexico (page 185), Beet leafhopper in southern Idaho and eastern Oregon (page 187).

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NOTICE: Appearance dates, moth flight observations and other such early-season records will be of great importance in keeping abreast of insect activity during the forthcoming season. It will be appreciated if you will include as many of these observations as possible in your reports, especially on the following migratory insects: bollworms, tobacco hornworm, tomato hornworm, tobacco budworm, corn earworm, armyworm, greenbug, potato leafhopper, potato psyllid, pea aphid, beet leafhopper screw-worm, aphids and leafhoppers. These are some of the more important insects taken from a list suggested by the Entomological Society of America Survey Advisory Committee.

WEATHER BUREAU'S 30-DAY OUTLOOK
March 1954

The Weather Bureau's 30-day outlook for March calls for temperatures to average above seasonal normals over the northeastern quarter of the nation and also in the far Southwest. Elsewhere below normal temperatures are indicated, marking a reversal from the abnormal warmth of February.

Precipitation is expected to exceed normal over the northern half of the nation east of the Continental Divide, and also in California. Subnormal amounts are predicted over the Gulf States and in the Pacific Northwest. Elsewhere near normal precipitation is indicated.

*This report released by the Weather Bureau on March 2, 1954.

Weather forecast given here is based on the official 30 day "Resume and outlook, "published twice a month by the Weather Bureau. You can subscribe through Superintendent of Documents, Washington, D. C. Price: $4.80 a year, $2.40 for six months.

* *

WEATHER FOR THE WEEK ENDING MARCH 2, 1954

For the fifth consecutive week abnormally mild weather persisted over virtually the entire Country. In northern regions east of the Continental Divide where weekly averages ranged up to 15° above normal, frost is out of the ground in many sections, and rapid deterioration of ice in the Great Lakes indicates an unusually early opening for navigation. The continued warm weather ended the warmest February on record in the Dakotas, and the second warmest in Minnesota. Also Trenton, N. J., reported the warmest February there since 1890. Maximum temperatures in the 60's in the western Plateau region early in the week and in the 90's in central Texas on the 26th established new records for February at many stations. On March 1, however, a cold wave, that reduced temperatures to subzero levels in the extreme North-Central Interior, was spreading rapidly southward and eastward. Snow accompanied the colder weather in northern areas and North Dakota reported a moderate blizzard. (Weather continued on page 181).

CEREAL AND FORAGE INSECTS

PEA APHID (Macrosiphum pisi) NEW MEXICO - Appearing in large numbers on one-year old and fall-seeded alfalfa in Eddy and Dona Ana Counties. Some control measures in Eddy County. Lady beetles and syrphid flies appearing in fields. (Dobson).

APHIDS - TEXAS - Aphids (mainly Macrosiphum granarium) lightly infesting winter small grains and clover locally around Denton and Weimar. (Moore, Chada). ARIZONA - Low on alfalfa; correlated with high predator counts. (Ariz. Coop. Rept.).

EGYPTIAN ALFALFA WEEVIL (Hypera brunneipennis) - ARIZONA - Up to 25 larvae per 100 sweeps in Yuma area. (Ariz. Coop. Rept.).

ALFALFA WEEVIL (Hypera postica) - UTAH - Adults active in some alfalfa fields in Utah County. (Knowlton).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Nine to 12 per 100 sweeps on alfalfa in Yuma area. (Ariz. Coop. Rept.).

LEAFHOPPERS - ARIZONA - From 150 to 175 per 100 sweeps in alfalfa in Yuma area. (Ariz. Coop. Rept.).

A SPIDER MITE (Tetranychina apicalis) - LOUISIANA - Moderate infestation on crimson cloverin Tangipahoa Parish. (Smith).

BROWN WHEAT MITE (Petrobia latens) - TEXAS - Very light infestation on wheat near Friona and Hereford (Daniels) and on small grains near Denton (Chada).

A GRAIN MITE (Penthaleus major) - TEXAS - Medium local infestation on small grains near Denton. (Chada).

CLOVER MITE (Bryobia praetiosa) - ARIZONA - Common in most alfalfa fields in Yuma area; noticeable damage in some. (Ariz. Coop. Rept.).

VARIEGATED CUTWORM (Peridroma margaritosa) - LOUISIANA - Average of two third-instar larvae per square foot found on white dutch clover in St. Landry Parish. (Burns).

LUPINE MAGGOT (Hylemya lupini) - FLORIDA - Approximately 50 percent of lupine plants infested at Havana. Majority of maggots in mid and late larval stages. (May, Guthrie).

CORN EARWORM (Heliothis armigera) - TEXAS - Attacking young corn and grain lower Valley. (Griffith).

ARMYWORM (Pseudaletia unipuncta) - TEXAS - Medium widespread infestation on clover and alfalfa near Weimar. (Moore).

A BEE (Colletes sp.) - FLORIDA - Abundant in lawns in Jacksonville area; average of 15 adults per square foot. (Kloeppel).

BLUEGRASS WEBWORM (Crambus teterrellus) - FLORIDA - Between 30 and 40 per square foot in Bermuda grass lawns in some localities. Severe damage but grass not killed. At time of observation, 40 percent in pupal stage and adults emerging. Period of worst damage over for this generation. (Kerr).

FRUIT INSECTS

CITRUS RED MITE (Metatetranychus citri) - CALIFORNIA Heavy in some Kern County orchards, medium to heavy in western Riverside County, medium local infestations in Orange County and light to medium in lemons in Santa Barbara County. (Coop. Ins. Pest Rept., Jan.).

CITRICOLA SCALE (Coccus psuedomagnoliarum) - CALIFORNIA - Heavy infestations in Kern County. (Coop. Ins. Pest Rept., Jan.).

CITRUS THRIPS (Scirtothrips citri) - ARIZONA - Prevalent in most citrus groves in Yuma area. (Ariz. Coop. Rept.).

EUROPEAN FRUIT LECANIUM (Lecanium corni) - CALIFORNIA - Heavy infestations on prune trees in Napa County. (Coop. Ins. Pest Rept., Jan.).

EUROPEAN RED MITE (Metatetranychus ulmi) - CALIFORNIA - Infestations in egg stage on 43,000 acres of prunes, 6000 acres pears, 2500 acres of cherries and 8000 acres of walnuts in Santa Clara County. (Coop. Ins. Pest Rept., Jan.).

TRUCK CROP INSECTS

CORN EARWORM (Heliothis armigera) - TEXAS - Many eggs and young larvae on watermelons and cantaloups in mid-Valley area. (Griffith).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - TEXAS - Medium infestation on onions in isolated area near Winter Haven. Onions grown for seed in shade houses being damaged; not noticed in fields. (Richardson).

ARTICHOKE PLUME MOTH (Platyptilia carduidactyla) - CALIFORNIA - Damage from 30 to 40 percent in some fields in Monterey County. Medium to heavy damage in Santa Cruz County; light to heavy in Santa Barbara County. (Coop. Ins. Pest Rept.).

CABBAGE LOOPER (Trichoplusia ni) - FLORIDA - A very few moths observed in Sanford area. (Wilson).

FALSE CHINCH BUG (Nysius ericae) - TEXAS - Attacking vegetables heavily in local area near Liberty. Medium to heavy on crops in lower Valley. (Hottel, Griffith).

VEGETABLE WEEVIL (Listroderes costirostris obliquus) - TEXAS - Medium local infestation on turnips near College Station. (Beckerman).

DARKLING BEETLES (Blapstinus spp.) - TEXAS - Medium to heavy infestation on crops in lower Valley. (Griffith).

PALE-STRIPED FLEA BEETLE (Systena blanda) - CALIFORNIA - Extensive damage to sweetpotato tubers in San Diego County, where soil fumigation not successful. (Coop. Ins. Pest Rept., Jan.).

FLEA BEETLES - TEXAS - Medium to heavy infestation on watermelons, cantaloups, and tomatoes in lower Valley. (Griffith).

TWO-SPOTTED SPIDER MITE (Tetranychus bimaculatus) - ARIZONA - Noted on underside of older leaves of lettuce grown for seed in Yuma area. Eggs abundant on some leaves. (Ariz. Coop. Rept.).

MELON APHID (Aphis gossypii) - FLORIDA - Average of 4 nymphs and adults per plant on watermelons at Winter Garden. (Denmark).

A FLOWER THRIPS (Frankliniella sp.) - LOUISIANA - Heavy infestation requiring control measures on strawberries in Ascension Parish. (Burns).

LEAF MINERS (Liriomyza spp.) - FLORIDA - Average of 2 adults per watermelon plant at Immokalee. Larval stage extremely severe on cotyledons earlier, but controlled. (Jacoway). Average of 3 larvae per watermelon plant at Winter Garden. (Denmark). TEXAS - Light infestation on watermelon, cantaloup and tomatoes in lower Valley. (Griffith).

SPRINGTAILS - LOUISIANA - Reported damaging young bean plants in Ascension Parish. (Burns).

CORRECTIONS: CEIR, Vol. 4, No. 6, p. 101. Under A WIREWORM (Conoderus vagus) sentence beginning "Forty-five--" should read "Forty-five percent of 20 cabbage plants examined infested". Also, notes on TURNIP APHID and CABBAGE APHID - FLORIDA - by Dobrovsky should be combined to read as follows: "Ninety-eight aphids, which include nymphs and adults of cabbage aphid and turnip aphid, counted on plants at Agricultural Experiment Station, Hastings".

COTTON INSECTS

Boll Weevil Hibernation Counts, Florence, South Carolina: During the fall of 1953 surface trash was examined from 10 farms in Florence County. These examinations showed an average of 3,533 live boll weevils per acre compared with 6,259 per acre in fall of 1952. Only in two other years (1943 and 1951) were fewer weevils found. Records were started in 1942 and the average for the eleven year period is 4,541 per acre. (Walker).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

AZALEA LACE BUG (Stephanitis pyrioides) - FLORIDA - Average of 50 eggs, 50 nymphs and 25 adults per plant. Adults more numerous than heretofore. Approximately 2,000 azaleas infested on one property at Goulding. (Jackson).

CARPENTERWORM (Prionoxystus robiniae) - FLORIDA - Infesting trunks of numerous turkey oak trees (Quercus laevis) around a residence near Anthony, Marion County. Several trees have died. (Hetrick).

GREAT BASIN TENT CATERPILLAR (Malacosoma fragilis) - ARIZONA - Tents in cottonwood in area from Phoenix to Tucson; three to 6 per tree. Higher infestation in parts of Tucson. (Ariz. Coop. Rept.).

Matsucoccus Scale on Red Pine in Northeast - 1953

Compiled by J. L. Bean

A cooperative survey to determine distribution of the Matsucoccus scale on red pine was conducted jointly by States of Connecticut, New York, New Jersey and New Hampshire, and BEPQ in 1953. Results of the survey revealed that the scale now infests red pine over an area of approximately 60 square miles in southwestern Connecticut, 40 square miles on Long Island, New York and a few scattered spots along Hutchinson River Parkway and in vicinities of Scarsdale and Yonkers in Westchester County, New York. No evidence of the scale was found within natural red pine areas surveyed in northern New York, Massachusetts, Vermont, New Hampshire and Maine or in plantings in New Jersey and Massachusetts.

This new species of Matsucoccus scale has now reached serious outbreak proportions in infested areas, becoming one of the most serious insect pests of red pine. Although the present infestation is restricted to definite localities, it constitutes a very serious threat to thousands of acres of planted and natural red pines in the northeastern states.

Infestations in Connecticut and New York: CONNECTICUT - The scale was first reported in State in 1946 from several acres of heavily infested red pine planted around the southeastern end of Hemlocks Reservoir in Easton. By 1950 the scale had spread to Easton Lake Reservoir, a distance of approximately four miles to northeast. A more intensive survey in 1952 showed that scale-infested red pine occurred over an area of approximately 45 square miles. In October and November of 1953 the area surrounding the 1952 infestation was resurveyed and it was found that the scale had spread one mile from the 1952 survey boundary, except along the northern edge. Infested trees were found over an area of approximately 60 square miles. NEW YORK - In 1950 the scale was reported in the vicinity of East Norwich, Long Island.

During the fall of that year a survey on Long Island, and Westchester and Putnam Counties revealed infested red pines scattered over an area of approximately 6 square miles on Long Island and at 6 locations along the Hutchinson River Parkway in Westchester County. Infested trees in Westchester County were destroyed by the Parkway Commission. Data from 1953 observations showed that the scale had spread over an area of about 40 square miles on Long Island, centering mostly in Nassau County, and additional infested trees were present at several points along the Hutchinson River Parkway in Westchester County. Infested red pines were also found at 3 locations along the Bronx River Parkway and in one location in Yonkers in this County.

Life cycle and symptoms of damage: In Connecticut and southern New York there are at least two generations of the scale annually, a spring generation with eggs laid in May and adults emerging in early August, and a fall generation with eggs laid in late August and adults emerging the following spring. First symptoms of foliar injury appear only after infestation has become quite severe. There is first a slight yellowing of needles on the current year's growth. Gradually foliage changes from light green to yellow and finally to brick red. This color change does not appear over entire tree at first, but only on an occasional branch. As the attack becomes more severe the color change becomes more general until foliage of entire tree is a brick red, followed by death of the tree.

Information is needed of the effect of low temperatures on survival of the scale. At present it is not known whether the insect is subject to a thermal barrier which may prevent its northward spread.

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A SCALE (Fiorinia theae) - FLORIDA - Average of 25 adults per plant on 500 camellia plants on one property at Goulding. (Jackson).

INSECTS AFFECTING MAN AND ANIMALS

CATTLE LICE - NEW MEXICO - Infesting cattle throughout eastern half of State. Spraying being done where needed. Average of one application for louse control per herd. (Dobson).

AN EYE GNAT (Hippelates collusor) - ARIZONA - Appearing in and near citrus groves in Yuma. (Ariz. Coop. Rept.).

MISCELLANEOUS INSECTS

IMPORTED FIRE ANT (Solenopsis saevissima v. richteri) - MISSISSIPPI - Ten acres in 40 acre field covered with mounds near Duffee in Newton County. (Roe, Hutchins).

RECENT IMPORTANT INTERCEPTIONS AT PORTS OF ENTRY

Insects intercepted recently in vegetables in ships'stores from foreign countries included the following WEEVILS: living larvae of Hyperodes sp. in carrots from ARGENTINA (Jones) and URUGUAY (Beauchamp, Crowell) at Boston; living larvae of Cleonus sp. in carrots from ITALY at Brownsville (Mabry); living larvae of Lixus sp. in beets from EGYPT at Philadelphia (Freedland); and living larvae of Epicaerus sp. in potatoes from MEXICO at Brownsville (Heinrich, Baker), Houston (Hunt) and San Diego (Gondeck). Although complete determinations are not available for these insects, their host relationships and distribution imply probable destructive pests not known to occur in the United States.

Weather Continued

East of the Mississippi light to moderate precipitation early in the week and moderate to heavy amounts near the end maintained adequate soil moisture, Also near the end of the period moderate precipitation occurred in the upper Mississippi Valley and the eastern portions of South Dakota, Nebraska, and Kansas. Falls were light in Missouri where subsoil moisture and stock water supplies are still inadequate. In the lower and western portions of the Great Plains and all of the far West, except along the north Pacific Coast and in a few extreme northern areas, precipitation was very light. The moisture situation is critical in an area including extreme southwestern Nebraska, eastern sections of Colorado and New Mexico, and in western portions of Kansas, Oklahoma, and Texas where frequent soil-drifting winds damaged small grains and pastures. On February 28 and March 1 moderate to heavy snow fell over Michigan, most of Ohio, and along the western slopes of the Appalachians. Depths on March 1 ranged up to a foot or more in northeastern Ohio and parts of eastern Tennessee. (Summary Supplied by U. S. Weather Bureau).

SUMMARY OF INSECT CONDITIONS - 1953

PENNSYLVANIA

Reported by J. O. Pepper

Cereal and Forage Insects: ARMYWORM (*Pseudaletia unipuncta*) outbreak occurred in the southwestern part of the State with spotted infestations in the southern and western tier of counties. Extensive control methods prevented much loss except in the untreated corn and grain fields. Some damage occurred in heavy bluegrass pastures and to young clover and alfalfa seedings in grain. CORN FLEA BEETLE (*Chaetocnema pulicaria*) was abundant early in the season and some damage occurred on young corn. A small outbreak of CHINCH BUGS (*Blissus leucopterus*) occurred in Lycoming County. Infestations of SEED-CORN MAGGOT (*Hylemya cilicrura*) caused damage to field corn, particularly in southeastern Pennsylvania. Treated seeds gave distinctly improved stands in this area. SOD WEBWORMS (Crambidae) were abundant in corn fields in York and Clearfield Counties. A field of corn, heavily infested with STALK BORER (*Papaipema nebris*) was noted in Adams County. CORN EARWORM (*Heliothis armigera*) was less abundant. HESSIAN FLY (*Phytophaga destructor*) and SAWFLIES (Cephidae) were general but not abundant. Only one serious infestation of WIREWORMS (Elateridae) attacking grain was reported. SLUGS completely destroyed two corn fields in Juniata County and were generally quite abundant. GRASSHOPPERS (*Melanoplus differentialis* and *M. femur-rubrum*) were more abundant and destructive than usual. Control measures were used in several instances.

ALFALFA WEEVIL (*Hypera postica*), in addition to the infestations in York and Lancaster Counties, was found in 1953 in Delaware and Chester Counties. No damage was reported. MEADOW SPITTLEBUG (*Philaenus leucophthalmus*) was generally abundant over most of the State, but damage to clover and alfalfa was not particularly noticeable because of the excellent growing conditions early in the spring. Damage from POTATO LEAFHOPPER (*Empoasca fabae*) on alfalfa was considerable to the second and third cuttings. Unusually dry weather during the summer emphasized the damage. CLOVER ROOT BORER (*Hylastinus obscurus*) was very abundant in second-year clover. CLOVER LEAF WEEVIL (*Hypera punctata*) was very abundant early but heavy parasitism by fungus reduced the population considerably.

PEA APHID (*Macrosiphum pisi*) was quite abundant in western counties on clover and alfalfa before the first cutting. In some fields the damage was quite noticeable. EUROPEAN CORN BORER (*Pyrausta nubilalis*) population was very low and the damage was the lowest in recent years.

Truck Crop Insects: CORN EARWORM was abundant on late sweet corn in the northeastern section and moderate elsewhere. Damage from SEED-CORN MAGGOT was heavy only in spotted areas on corn. Early-planted bean fields were damaged by this insect in northwestern counties. TOMATO RUSSET MITE (*Vasates lycopersici*) reduced tomato yields in several counties. It also severely infested a ground cherry (*Physalis heterophylla*) in Lackawanna County. TOMATO HORNWORM (*Protoparce quinquemaculata*) was much more abundant than usual in Juniata County. COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) was fairly abundant on tomato plants in scattered areas. POTATO FLEA BEETLE (*Epitrix cucumeris*) was very abundant and is becoming more difficult to control with DDT. POTATO LEAFHOPPER (*Empoasca fabae*) was also very abundant; more than last year. Some damage to potatoes was caused by TARNISHED PLANT BUG (*Lygus lineolaris*) and APHIDS, although the latter were less than in 1954. Generally, CABBAGEWORMS were less abundant and control more effective than last year. CABBAGE APHIDS (*Brevicoryne brassicae*) became abundant on late cabbage and control measures were necessary. CARROT RUST FLY (*Psila rosae*) was noted in many home gardens in southern Pennsylvania. BLISTER BEETLES (*Epicauta* spp.) were more numerous than usual, attacking beets, spinach, and legumes.

Fruit Insects: A small increase was noted generally in the abundance of CODLING MOTH (*Carpocapsa pomonella*). PLUM CURCULIO (*Conotrachelus nenuphar*) continues to be one of the most important insect pests on apples. A definite heavy increase in APPLE MAGGOT (*Rhagoletis pomonella*) was general over the State. Damage was severe in orchards in which the late sprays were omitted. RED-BANDED LEAF ROLLER (*Argyrotaenia velutinana*) increased in western Pennsylvania but remained the same elsewhere as in 1954. MITES and APHIDS were generally moderate in abundance. LESSER APPLE-WORM (*Grapholitha prunivora*) appeared in several western Pennsylvania orchards causing considerable damage to apples on the tree and continued in storage. LESSER PEACH TREE BORER (*Synanthedon pictipes*) was the heaviest in five years in northwestern Pennsylvania.

ASIATIC GARDEN BEETLE (*Autoserica castanea*) was noted feeding on peach and plum leaves in Pike County and on asters in Lycoming County. CHERRY FRUIT FLY (*Rhagoletis cingulata*) and BLACK CHERRY FRUIT FLY (*R. fausta*) were very abundant on cherries in the Erie fruit section. PEAR PSYLLA (*Psylla pyricola*) was a problem in a few small orchards.

Household Insects: A gradual increase in the number of requests concerning CLOVER MITE (*Bryobia praetiosa*) has been noted in recent years. Most of the requests are from people in new or recently-built homes. BLACK CARPET BEETLE (*Attagenus piceus*) and VARIED CARPET BEETLE (*Anthrenus verbasci*) are becoming much more of a problem than clothes moths. Numerous outbreaks of BOXELDER BUG (*Leptocoris trivittatus*) and ELM LEAF BEETLE (*Galerucella xanthomelaena*) were reported throughout the State. CLUSTER FLIES (*Pollenia rudis*) and BLACK VINE WEEVIL (*Brachyrhinus sulcatus*) were also reported numerous times. HOUSE FLIES (*Musca domestica*) were a problem over the State in barns and houses.

Forest Insects: SPRING CANKERWORM (*Paleacrita vernata*) was noted in outbreak proportions in southeastern Pennsylvania. FALL WEBWORM (*Hyphantria cunea*) was less abundant than usual, although plentiful in some areas. LOCUST LEAF MINER (*Chalepus dorsalis*) caused considerable damage to black locust in the southern part of Pennsylvania. Complete destruction of foliage occurred in Fayette County. PERIODICAL CICADA (*Magicicada septendecim*) caused severe injury to forest trees and orchards in the areas where the brood is recorded. Frequent insecticidal applications prevented much injury in orchards. EUROPEAN PINE SHOOT MOTH (*Rhyacionia buoliana*) has increased in western Pennsylvania. Some plantations of red pine have been severely injured. NANTUCKET PINE MOTH (*Rhyacionia frustrana*) is doing severe damage in eastern Christmas tree plantations. A new species to Pennsylvania (*Eucosma*, probably *gloriola*) is causing noticeable injury to red and Scotch pines in Berks and York Counties.

Insects Affecting Man and Animals: HORN FLIES (*Siphona irritans*), HORSE FLIES (*Tabanus* spp.) and STABLE FLIES (*Stomoxys calcitrans*) were very abundant throughout the State and control methods were used.

Ornamental Insects: A HOLLY SCALE (*Asterolecanium puteanum*) caused severe injury to a planting of 75 trees in Lancaster County. BOXWOOD LEAF MINER (*Monarthropalpus buxi*) and BOXWOOD PSYLLID (*Psylla buxi*) were fairly abundant over southern Pennsylvania.

Stored Grain Insects: RED FLOUR BEETLE (*Tribolium castaneum*) was exceedingly abundant in straw in a new barn in Warren County.

NEW MEXICO

Reported by R. C. Dobson

Cotton Insects: The general insect infestation in New Mexico on cotton was light. There were isolated cases where the insects were present in injurious numbers. BOLLWORM (*Heliothis armigera*) was present in large numbers in relatively few fields over State. SPIDER MITES occurred in areas throughout State and were serious in only a few scattered locations. *Tetranychus bimaculatus* was the most prevalent. Some treatment of cotton was necessary in Quay County for control of COTTON LEAFWORM (*Alabama argillacea*). Very little trouble in other areas. COTTON APHID (*Aphis gossypii*) appeared in epidemic numbers late in the season in the central area and some control measures were carried out. This same aphid appeared early in the season and in combination with THRIPS did considerable damage. LYGUS BUGS caused considerable square shedding in cotton fields adjacent to alfalfa.

Fruit Insects: Little or no injury was caused by fruit insects in 1953 since there was no fruit produced in the State on an economic basis. Reports of a CLOVER MITE (*Bryobia* sp.) attacking apple trees were received from two or three growers in the Hondo Valley. WOOLLY APPLE APHID infestations throughout the State continue to harass fruit growers.

Vegetable Insects: CORN EARWORM (*Heliothis armigera*) infestation in sweet corn stands was nearly 100 percent all over State.

SOUTHWESTERN CORN BORER (Diatrea grandiosella) occurred in fairly large numbers as far North as Quay County. Some fields very heavily infested. SQUASH BUG (Anasa tristis) infestations were normal. During late June and early July, BEET LEAFHOPPER (Circulifer tenellus) occurred over southern half of State in extremely large numbers and caused about 25 percent plowing-under of commerical tomato fields. Also severe on chili in the Mimbres Valley area. MEXICAN BEAN BEETLE (Epilachna varivestis), caused a great deal of trouble to small gardeners but very little to commercial fields.

Cereal and Forage Insects: Scattered reports of CUTWORM injury were received from time to time in the irrigated areas but no outbreaks occurred. LYGUS BUGS occurred in large numbers in alfalfa fields throughout the season and in fields left for seed causing considerable damage. Late in the season, APHIDS invaded alfalfa to be cut for hay and occurred in such numbers as to interfere with the handling of the crop. Some reports of seedling alfalfa being killed by heavy infestations of aphids were received. No determination of the species was made.

Range Insects: Infestations of GRASSHOPPERS occurred in areas reported in 1952 and also several new points in the State. 69,000 acres were sprayed in the northeastern part of the State. In addition to this area, infestations reportedly covered over 1,500,000 acres . As in 1952, the species present were non-migratory, range type grasshoppers.

Livestock Pests: Infestations of HORN FLIES were heavy where no controls were practiced and a 100 percent infestation of EAR TICK was evident at least in the southern counties. Most ranchers have a definite spray program and insects are kept under control. A large percentage of the ranchers are using aerosol bombs in ear tick control with excellent results. Other insects affecting cattle remained at a normal level.

Household Insects: A large number of complaints regarding the invasion of homes by CLOVER MITE (Bryobia sp.) were received. HOUSE FLIES were not the problem they were in 1952 year with few reports of large numbers being present in any one area.

Summary of Beet-leafhopper Conditions - 1953

Southern Idaho and Eastern Oregon

Reported by J. R. Douglass

The population of beet leafhoppers that entered the winter of 1952-53 in southern Idaho and eastern Oregon was the lowest since 1948, and they entered the winter under unfavorable host-plant conditions. Germination of winter annual mustards did not occur until early January and made very little growth during the remainder of the winter. The fall and winter of 1952-53, from October 1 to March 31, for Twin Falls and southwestern Idaho was 24.4° and 17.6° F. above normal in temperature with a deficiency of 2.05 and 0.97 inch of precipitation, which was very favorable for leafhopper survival. Spring surveys in 1953 showed an average of 65 overwintered beet leafhoppers per 100 square feet of weed-host area, as compared to an average of 30 for the previous 12 years. The spring weed hosts were generally abundant and widely distributed in most of the burned and disturbed areas, while in the sagebrush areas they were generally sparse. In late April, these plants were small and dwarfed. Over most of the spring breeding areas, the weed hosts were intermixed with nonhost grasses, which reduce the suitability of such areas for reproducing large numbers of leafhoppers. General rains at the end of April and in May and June added good soil moisture at times, but cool weather in the spring retarded and delayed the spring growth of the weed hosts. The most productive spring breeding areas were practically pure stands of perfoliate pepperweed, which occupied approximately 80 percent of the areas. One such area produced an average of 180 beet leafhoppers per square foot of weed host on approximately 4,500 acres.

Tumblemustard was the most widespread and abundant spring weed host on the range but did not produce high populations of leafhoppers. The development of the spring generation of beet leafhoppers started early as a result of periods of warm, dry weather in March and April but was later retarded by cool weather in May and June. The initial movement of the spring-generation adult beet leafhoppers from their breeding areas to beetfields on the western edge of the Twin Falls, Idaho, irrigation tract started on May 15 and reached the peak on July 3, with an average population of 791 leafhoppers per 100 square-foot samples. The peak population was 26 higher than the 19-year average of 765 leafhoppers. Although the spring movement extended over a period of 49 days, 96 percent of the leafhoppers entered the beetfields in 14 days during two periods of extensive movement. Tests of spring-generation leafhoppers collected from June 10 to 15 in beetfields in the Buhl-Castleford area showed that 19.5 percent carried the virus of curly-top disease. Surveys of representative fields of snap beans grown for seed and Great Northern U.I. 123, a dry bean variety, in southcentral Idaho showed that 1.9 and 0.4 percent of the plants were infected with curly top. In the Nampa-Nyssa, Jerome-Twin Falls, and Burley-Rupert districts, 12.4, 5.6, and 2.3 percent of the sugar-beet plants showed obvious curly-top infection. Surveys in September 1953 showed the lowest acreage of Russian-thistle during the past 7 years. This thistle germinated early in the season in overgrazed areas, but because of its competition for soil moisture with downy chess and the prolonged drought during the summer, it died early or dried prematurely. Fall surveys in 1953 showed the lowest fall population of beet leafhoppers since 1947. Germination and emergence of winter annual weed hosts of the beet leafhopper occurred throughout the spring breeding areas of southern Idaho during November 1953. Both weather and host plant conditions were good during the fall. Consequently, the beet leafhopper entered the winter under favorable conditions.